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ABSTRACT

Variation in rates of officially reported child maltreatment in urban neighborhoods is related to structural determinants of community social organization: economic and family resources, residential instability, household and age structure and geographic proximity of neighborhoods to concentrated poverty. Furthermore, child maltreatment rates are found to be intercorrelated with other indicators of the breakdown of community social control and organization. These other indicators are similarly affected by the structural dimensions of neighborhood context. Children who live in neighborhoods that are characterized by poverty, excessive numbers of children per adult resident, population turnover and the concentration of female-headed families are at highest risk of maltreatment. This analysis suggests that child maltreatment is but one manifestation of community social organization and that its occurrence is related to some of the same underlying macro-social conditions that foster other urban problems. (Contains 58 references, 5 tables, and 2 figures.) (Author)

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COMMUNITY LEVEL FACTORS AND CHILD MALTREATMENT RATES

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COMMUNITY LEVEL FACTORS

AND CHILD MALTREATMENT RATES

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COMMUNITY LEVEL FACTORS AND CHILD MALTREATMENT RATES

Abstract

Variation in rates of officially reported child maltreatment in urban neighborhoods is related to structural determinants of community social organization: economic and family resources, residential instability, household and age structure and geographic proximity of neighborhoods to concentrated poverty. Furthermore, child maltreatment rates are found to be intercorrelated with other indicators of the breakdown of community social control and organization. These other indicators are similarly affected by the structural dimensions of neighborhood context. Children who live in neighborhoods that are characterized by poverty, excessive numbers of children per adult resident, population turnover and the concentration of female-headed families are at highest risk of maltreatment. This analysis suggests that child maltreatment is but one manifestation of community social organization and that its occurrence is related to some of the same underlying macro-social conditions that foster other urban problems.

COMMUNITY LEVEL FACTORS AND CHILD MALTREATMENT RATES

Shifts in the economy and continuing patterns of racial segregation have given rise in the last two decades to a growing concentration of poverty and isolation of the urban poor from mainstream economic activity. A growing number of poor neighborhoods have experienced a social transformation in which single-parent families live amidst the highest rates of violence, drug trafficking, housing deterioration and their children experience increasing rates of delinquency, school failure and developmental problems (Chow and Coulton, 1992; Wilson, 1987). During the same era, reported rates of child maltreatment have increased dramatically, in part, due to enhanced public awareness and mandatory reporting laws. Current explanations for child maltreatment do not adequately take into account the change in the social ecology of urban environments as a factor in the rising maltreatment rates (Garbarino and Kostelny, 1992).

The purpose of this analysis is to refine the understanding of those structural factors in the community that give rise to varying rates of child maltreatment. We propose a conceptual framework drawn from community social organization theory and research. We argue that rapid structural change has led to a lowering of levels of community social organization in many urban neighborhoods. We test the proposition that neighborhoods affected by these structural conditions pose the highest risk for child maltreatment while also producing high rates of other negative outcomes for children and adolescents, themselves signs of social disorganization. A subsequent paper will describe the social and cultural processes through which these structural factors shape social relations, institutional arrangements, and parental capacities and behaviors.

BACKGROUND

While poverty is not linked inevitably to child maltreatment, the association between poverty and child abuse and neglect has been documented repeatedly (e.g., Gil, 1970; Gelles, 1992; National Research Council, 1993; Pelton, 1981). However, the effects of economic factors have been examined primarily at the level of the individual and the family. Nevertheless, poverty is increasingly intertwined with a number of negative neighborhood conditions (Chow and Coulton, 1992; Wilson, 1987) making it likely that its influence operates both through restricted resources available to individual families as well as through the macrostructural forces that shape poor communities.

The worsening conditions in poor, urban communities have been attributed to several trends over the past two decades. Industrial restructuring has lowered demand for low-skill labor, leaving more inner-city residents without steady jobs (Galster & Mincey, 1993; Kasarda, 1993). Continued racial segregation has served to concentrate the resulting unemployment and poverty in African-American neighborhoods (Massey and Denton, 1993), with accompanying decline in the strength of neighborhood social institutions (Wacquant and Wilson, 1989). Out-migration of two-parent and working families have left behind poor families, largely headed by females, clustered together in areas where opportunities and resources are constrained (Kasarda, 1993).

Maltreatment and Community

While there is general agreement that maltreatment rates are extraordinarily high in many impoverished areas, there is only beginning understanding of why this is the case.

However, interest in the role of the community surrounding the family in child maltreatment is growing and the families' interaction with community has been suggested as one factor that may perpetuate family violence (Belsky, 1980; Garbarino, 1977; Cicchetti and Lynch, 1993).

A notable exception to the individual and family focus of most maltreatment research has been the series of studies by Garbarino and his colleagues. Their early work found that child maltreatment rates in neighborhoods were highly correlated with socioeconomic measures, family structure and residential satisfaction (Garbarino and Crouter, 1978; Garbarino and Sherman, 1980). Based on qualitative interviews with residents, they concluded that high-risk areas were socially impoverished and "run down" despite their economic status. Later studies (Garbarino and Kostelny, 1992) replicated these findings and further suggested that community disorganization and lack of social coherence characterized the areas with the highest risk of maltreatment. These findings of community level correlates were consistent with Zuravin (1989) who found that the strongest predictors of maltreatment rates were low-income and rate of vacant housing in the neighborhood, and with Steinberg and colleagues (1981) who found that county-based maltreatment rates rose following a decline in employment.

The above studies and the analysis to be presented in this article are unique in that they identify neighborhood conditions that place children at risk for maltreatment. Although they imply that high risk neighborhoods have few resources or are cut-off from the larger society, the focus on the community itself differentiates this line of research from work on the social isolation of individual maltreating families. While the contribution of parental

social isolation to child maltreatment has been challenged (Seagull, 1987; Thompson, 1992; Coohey, 1993), maltreating families have been generally portrayed as having limited contacts with kin, neighbors and friends. For example, studies of maltreating and non-maltreating families suggest that they may perceive their social relationships differently, possibly stemming from longstanding personality disorders in the maltreating mothers (Polansky et al., 1985). Neglectful families are even less likely than their low-income neighbors to interact with neighbors or to perceive them as helpful. Further, neglectful families may be seen as marginal and avoided by others (Polansky et al., 1985).

Community Social Organization as a Framework

Although the existing work on the ecology of child maltreatment clearly points to the relevance of neighborhood social conditions it does not explicitly link these conditions to macrostructural changes in the economy or population distribution. The concept of community social organization is useful in putting forward an explanation for the observed relationships between macrostructural phenomenon such as the economic status or the family structure of communities and the occurrence of behaviors that the larger society defines as unacceptable, such as child maltreatment (Sampson, 1992).

The term community social organization is used rather than the more commonly used phrase community social disorganization because it should be viewed along a continuum and as a positive strength when it is present to an adequate degree. While the literature on and refinements of this concept are vast, community social organization refers generally to patterns and functions of formal and informal networks and institutions and

organizations in a locale (Kasarda and Janowitz, 1974). Community social organization is strong to the degree that these local structures are able to accomplish the goals of residents and exert social control from within the community (Sampson, 1992). This includes the protection and provision of resources for residents, the socialization of youth and the other functions associated with community life (Warren, 1971).

It has been suggested that modern urban communities operate through an interlocking set of formal and informal networks, often facilitated by kinship and ethnic or social status homogeneity (Leighton, 1988). They are less spatially limited than they were in the past, although they are influenced by proximity. Communities may differ in the structure of these networks and the degree to which they actually supply resources, both tangible and intangible. Networks can differ in their ability to exert social control and social support.

Studies of the poor, in general, indicate a paucity of ties in the immediate vicinity and a reliance on kin-based networks that may isolate them from their immediate community (Granovetter, 1982; Furstenberg, 1993). The low density of networks within neighborhoods may reduce the effectiveness of community controls and institutions (Sampson, 1991). Furthermore, as ever wider sections of major cities become impoverished (Hughes, 1990; Jargowsky and Bane, 1991), specific neighborhoods may become geographically isolated from mainstream influences and the influence of institutions that serve the wider community.

Particular aspects of community social organization have been found to lower the incidence of deviant behaviors such as crime and delinquency. The ability of residents to

control the behavior of others toward pro-social norms, the density of local friendship networks and high levels of local participation in organizations have all been found to work against deviance (Sampson and Groves, 1989). Although these aspects of community have not been examined directly in research on child maltreatment, questions that Garbarino and Sherman (1980) put to residents of high- and low-risk areas can be seen as reflective of these dimensions. They showed that when people evaluated their neighborhoods as bad places to raise children, the rates of child maltreatment were the highest. Similarly, Furstenberg's (1993) ethnographies of neighborhoods with public housing found that parenting success was compromised by the fact that mothers seldom knew their neighbors, felt they did not share common values with their neighbors and found few neighborhood organizations in which to participate.

Community social organization can be affected by the kinds of macrostructural influences that we have seen operate in many cities in the 80s--the increase in poverty concentration, family disruption, and turnover of residents (Bursik and Grasmick, 1993). A relatively long history of research demonstrates that social organization within a community is diminished by poor economic status, ethnic heterogeneity, family disruption and residential mobility (Shaw and McKay, 1942; Suttles, 1968; Sampson and Groves, 1989; Sampson, 1991).

Child maltreatment is likely to be fostered by the same macrostructural factors at the community level that have been linked to other forms of deviance and negative childhood outcomes. For example, highly mobile communities have been shown to have a lower density of acquaintanceships which seems to limit their ability to control crime, socialize

their youth and take care of members with special needs (Freudenburg, 1986). There is considerable evidence that the density of friendship networks, parental control over teen peer groups and participation in voluntary organizations, all aspects of community organization, are good predictors of rates of crime and delinquency (Figueira-McDonough, 1991). Rates of delinquency are related to the community instability that develops in neighborhoods that experience significant population turnover (Bursik and Webb, 1982). The rapid loss of population and resulting devastation of institutional and service networks are correlated with poor health outcomes for children (Wallace, R., 1990; Wallace, D., 1990).

Coleman (1987) uses the term "social capital" to refer to the community resources that support child development. It is his contention that structural changes in employment, households and neighborhoods have eroded the effectiveness of community norms, adult sponsored youth activities and informal relations among adults and children. In some communities he notes that these functions are beginning to be replaced by other mechanisms, often more formal institutions. Yet, in poor communities with sparse resources for private or public investment, such conversion to formal mechanisms has been limited. The decline in social capital produced by structural change may be responsible for a number of the problems of families and children that are clustering in low-income communities, including child maltreatment.

Drawing on the community social organization framework, this analysis hypothesizes that the child maltreatment rate is related to the following structural characteristics of neighborhoods: Economic status, population movement, age and family

structure and the proximity of the neighborhood to other areas of poverty concentration. Because it is suspected that a similar set of macrostructural influences may foster a whole range of the negative social conditions that we see in our poor, inner city neighborhoods today, we also test the effects of these structural factors on crime, delinquency, drug trafficking, teen pregnancy and low birth weight rates.

A Cautionary Note on Macrostructural Effects

The framework put forward here proposes that structural properties of communities can affect their levels of social organization. The resulting social processes may stimulate or fail to inhibit a range of behaviors, including child maltreatment, which is of interest in this case. An important piece of evidence to support the validity of this argument would be the finding that rates of child maltreatment are high in areas with relevant structural properties and that other behaviors that have been linked to community social organization are present at high rates as well.

However, these same patterns could be explained in whole or in part by selection processes (Tienda, 1991). Neighborhood residence is not random, with some families moving in, some families staying and others moving out. If maltreating families were more likely to congregate in certain neighborhoods that also happened to have the hypothesized structural characteristics, selection processes rather than community social organization could be responsible for the observed effects. Feedback processes (Tienda, 1991) could also result if maltreating families were responsible for lowering the levels of community social organization in a neighborhood.

An additional challenge to interpreting macro-level associations is the possibility that they are merely aggregation effects (Bronfenbrenner et al., 1984). For example, it is possible that a community characteristic such as poverty rate, which is presumed to measure an attribute of the community structure, actually operates to affect maltreatment rates at the family level. Researchers could mistakenly conclude that poverty exerted a structural effect when its influence on children actually occurred internally to each poor family. Aggregation effects are the opposite of the ecological fallacy where the mistaken inference from rates would be that the distress experienced by poor families leads to maltreatment. However, individual level explanations can be equally flawed when what seems to be an individual problem, such as failure to use community resources, is really a function of lack of community institutions.

The analysis presented here focuses on the link between macrostructural properties of communities and rates of maltreatment at a single point in time. Its contribution is that it uses those structural characteristics that both theoretically and empirically have been found to affect community social organization. The possibility that selection and aggregation are operative in addition to structural effects cannot be ruled out.

METHODOLOGY

This is a cross-sectional study of the ecology of child-maltreatment rates in urban neighborhoods. Three sets of hypotheses are tested: The first is that maltreatment rates are a function of a set of structural conditions associated with level of community social organization; the second set of hypotheses is that there are interrelationships among

maltreatment rates and other behavioral outcomes that may be correlated with community social organization such as violent crime, delinquency, drug trafficking, teen pregnancy and child health; the third hypothesis is that the structural determinants of child maltreatment rates do not differ from the structural determinants of these other related outcomes.

Neighborhoods and Context

The units of analysis for this study are the 177 residential census tracts in Cleveland, Ohio. A census tract has an average of 2,000 residents and was chosen because it is the unit of analysis for which numerous types of data are readily available. It is also large enough to allow the calculation of rates, yet small enough to reasonably approximate a neighborhood. Unfortunately, census tracts do not necessarily represent the neighborhood as it would be defined by residents and may be more heterogeneous than would be true of the residents' perceived neighborhoods. Such heterogeneity would result in estimates of structural effects that are biased downward.

Cleveland, like many northern industrial cities, experienced a rise in many of the conditions associated with maltreatment during the 80s. The geographic concentration of poverty doubled in the 80s (Coulton et al., 1990) as the poverty rate rose to 29% of the city residents. Cleveland is also among the most racially segregated metropolitan areas in the nation (Massey and Denton, 1989). The economy, characterized by deindustrialization and out-migration to the suburbs and other regions, has left the population within the city limits at one-half of the 1950 peak. The community conditions described in this analysis are likely to

be similar in other northern industrial cities but are not found to the same degree in newer cities in the south and west (Hughes, 1990).

Child Maltreatment Rates

This study uses official reports to estimate maltreatment rates. Child abuse and neglect reports are often thought to underestimate the incidence and prevalence of maltreatment and to be biased against poor and minority families (Newberger et al., 1977; O'Toole et al., 1983). Official reports are often considered an imperfect source of data due to problems in record-keeping, variability in definitions and misidentification of cases. Further, official reports reflect child consequences serious enough to come to the attention of an agency rather than reflecting all behaviors that pose dangers to children (Straus et al., 1980). However, child abuse and neglect reports are an indicator of the distribution of recognition of, and response to, child maltreatment and have usefully been applied in past research (Garbarino and Sherman, 1980; Pelton, 1981; NCCAN, 1988; Zuravin, 1989). Recent studies show that the percentage of all maltreatment reported to Child Protective Services has remained steady over the years (NCCAN, 1988).

Data on child maltreatment were drawn from the computerized records of the Cuyahoga County Department of Human Services. All "substantiated" and "indicated" reports in 1991 were included in the calculation of rates. The analysis, therefore, includes those cases adjudicated as maltreatment as well as those strongly felt to be maltreatment by agency workers even if legal action was not taken. The analysis was limited to the most

recent year available in order to ensure accuracy of address. A total of 4,628 incidents were included in the analysis.

In order to determine the number of maltreatment reports for each census tract, it was necessary to geo-code the addresses of the children on whom the reports were made. This was accomplished by using the families' addresses at the time the maltreatment occurred and assigning them to census tracts using a commercial geo-coding software package, MapInfo. MapInfo contains the address ranges from the Census Bureau's Tiger/Line files and allows the placement of each address at its geographic location on a map. Because we were interested in the effect of residential location on rates of child maltreatment, we excluded the few incidents that reportedly occurred in schools and day care centers.

In a few cases (9.4%), the same child had several reports of maltreatment during the year. In the calculation of rates, these cases were counted only once because we were interested in the proportion of children who experienced maltreatment rather than the number of reports that were made. The rates were calculated by counting the total number of children living in each tract who experienced one or more confirmed instances of maltreatment and dividing by the population of the tract ages 0 through 17.

Each report is classified as to the type of maltreatment. Cases may be classified as any combination of neglect, physical abuse or sexual abuse. In a large number of cases (67.8%), only neglect is confirmed but the majority of cases in which abuse is confirmed also involve neglect. Because of the difficulty in accurately distinguishing abuse from neglect, and because of their co-occurrence, we use total maltreatment rates in our analyses.

However, our results were almost identical when we used rates of cases that had only neglect confirmed.

Zuravin (1989) used similar methods to calculate maltreatment rates in another urban area for 1983 and 1984. She found 23/1000 cases of abuse and 26/1000 cases of neglect. Using confirmed reports for a national population, Starr et al. (1990) estimate 12/1000 cases of overall maltreatment with a little over half the cases confirmed only for neglect.

Indicators of Community Structure

The literature on community social organization suggests economic status, residential mobility, family structure and race or ethnicity as related macrostructural factors. We also anticipated that the age and gender structure of an area would be important determinants of the available resources for care and socialization of children and levels of social control. Furthermore, our own work in Cleveland suggested that the actual geographic location of the neighborhood may be important, especially the degree to which poor neighborhoods are contiguous to other poverty areas and separated from economic opportunities in more affluent areas.

We chose a set of empirical indicators that we believed were consistent with the above concepts for inclusion in our analysis. These are presented in Table 1.

insert table 1 here

Characterizing the economic status of urban neighborhoods today is complex and for purposes of this study it seemed most important to have sensitive measures to distinguish among areas at the lower end of the economic continuum. Poverty rates and unemployment

rates were considered measures of the economic status of an area. The amount of vacant housing was also added as an indicator of the degree to which an area has been experiencing disinvestment. Median family income, which was included as an economic measure initially, was removed from the analysis because its extreme multicolinearity with the other indicators ill-conditioned the covariance matrix for analysis.

Four measures were expected to be signs of population movement. The percentage of the population that had recently moved (Movement 85-90), the percentage of residents who had been in the area for less than 10 years (Tenure < 10 years) and the percentage of residents who moved into their current residence less than one year ago (Recent Movement, 89-90) were chosen as indicators of residential shifting. A measure of the loss of population over the past decade (Population Loss) was included as an additional indicator.

Family, age and gender structure were represented by several measures: The proportion of households with children headed by females (Family Headship), the ratio of children to adults (Child/Adult Ratio), the relative presence of the elderly in the community (%Elderly population) and the ratio of adult males to females (Male/Female Ratio). These structural conditions were viewed as affecting the resources available for families and children.

Finally, racial composition was measured as the percent of the population classified in the Census as black. Although race or ethnicity usually is included in community studies, the meaning of this indicator with respect to community social organization is somewhat ambiguous. Theoretically, racial or ethnic homogeneity could be seen as a predictor of social cohesion which would increase social organization. With this meaning in mind, a

curvilinear relationship would be anticipated between percent black and outcomes thought to be related to social organization. For example, neighborhoods that were predominantly black (i.e., high on percent black) or predominantly white (i.e., low on percent black) would both have high homogeneity and, thus, be expected to have low rates of maltreatment. However, in a city such as Cleveland in which African-Americans are so highly segregated and there is little immigration from Asian or Latino groups, almost all neighborhoods are homogeneously white or black. As Bursik (1984) notes, African-Americans under these circumstances may be trapped in deteriorated and troubled neighborhoods from which they cannot afford to flee, thus predicting a positive association between the percent black residents in an area and outcomes such as crime or maltreatment. In this analysis, therefore, the variable labelled percent black probably reflects the results of various types of disadvantage and discrimination rather than a concept of ethnic homogeneity.

The indicators of community structure were highly intercorrelated. Therefore, we subjected them to a principal components analysis in order to determine a smaller number of underlying dimensions that could be used in our analysis. The dimensions are described in the results section.

Factor scores were calculated for each census tract for each of the dimensions of community structure. Additionally, a geographic location variable was calculated for each tract because of the recognition that the resources in an area can be affected by resources available in contiguous areas. We restricted our definition to economic resources by taking into account whether each tract was contiguous to areas of highly concentrated poverty. To accomplish this we, first, listed the other census tracts that surrounded each of the 177

residential census tracts. The tract was coded as contiguous (1) if any of the surrounding tracts exceeded a threshold of 40% poverty; otherwise it was coded as not contiguous (0). The choice of the 40% poverty threshold is consistent with the definition of concentrated poverty used in other research and thinking about urban poverty (Jargowsky and Bane, 1991).

Other Outcomes

To test the proposition that the structural determinants of child maltreatment rates are similar to those that predict other indicators of well-being in the community, several additional outcome indicators were selected. These included rates of violent crime, drug trafficking, juvenile delinquency, teen childbearing, and low birth weight births. These variables and their data sources are also described in Table 1. The measures of low birth weight and teen pregnancy are based on birth certificates and are, therefore, quite accurate. However, measures using police reports and court records are known to underestimate the true levels of criminal and violent events (O'Brien, 1985). More importantly, they are also biased by differences that may exist across neighborhoods in victims' tendencies to report (Sampson, 1985), and law enforcement personnel's decisions to file reports and make arrests (Sherman, 1989). Unfortunately, the direction of the bias in each of the neighborhoods in this study cannot be known but could account for some part of the observed correlations among the three types of measures from law enforcement agencies.

RESULTS

The means and standard deviations of variables used in all of the subsequent analyses are presented in Table 2. These are unweighted means in which the census tracts are the units of analysis. These means differ slightly from the citywide values for these variables.

insert table 2 here

The primary dependent variable, child maltreatment rate, has considerable variability and its distribution is displayed in Figure 1. Although the skewness of this variable is not statistically significant, there is one tract with an extremely high rate of maltreatment. This tract is located in an area of dense public housing amidst much vacant land with an isolated population.

insert figure 1 here

Indicators of Community Social Organization

The indicators of community social organization were intercorrelated and were expected to form a smaller number of underlying factors including an economic dimension, an instability dimension and a dimension reflecting family and age structure. The results of a principal components analysis is presented in Table 3. Three factors explained 78% of the variance.

insert table 3 here

The first factor, which explained the largest portion of variance, is labeled impoverishment. As expected, poverty rate and unemployment rate loaded on this factor.

However, two variables, expected to be indicators of instability also loaded on this factor as well. Vacant housing may load on the impoverishment factor because it is a reflection of the disinvestment that is taking place in poor areas. Population loss also loads on the impoverishment factor since poor communities have experienced great out-migration in the past 10 years and the region is not growing. Additionally, female-headed households load on the impoverishment factor. While this variable was expected to load on a family structure dimension, we have found that it recently has become tied inextricably to concentrated poverty (Chow and Coulton, 1992). Finally, the percent black population loads on this factor, confirming our expectation that the racial makeup of an area is related to economic and residential disadvantage within the city.

The second factor, which we label child care burden, includes the ratio of children to adults, the ratio of males to females and the percent of the population that is elderly. This dimension, we believe, reflects the amount of adult supervision and resources that may be available for children in the community. In some areas, children are quite numerous relative to adults and men, and elderly persons are relatively absent. The burden of child supervision falls largely on younger, single women.

The third factor, labeled instability, includes the proportion of residents that have moved to or from a different house within the last five years, the proportion of the households who have lived in their current home for less than 10 years, as well as the percent of households that have lived in their current home less than one year. This factor represents the degree to which the area may be characterized by movement of residents.

Effect of Community Structure on Child Maltreatment Rates

Factor scores representing the three dimensions of community social organization and a measure of geographic location were used as independent variables in a model with child maltreatment rate as the dependent variable. All these variables were entered simultaneously. The possibility of statistical interaction among pairs of factors was tested by entering multiplicative terms for each combination of factors. Only those interaction terms that had a statistically significant partial regression coefficient were retained in the model.

Table 4 presents the results. The model explained almost half the variance among census tracts in their child maltreatment rates. An examination of the residuals revealed that they were normally distributed and they showed no violation of assumptions. Cook's D (Cook and Weisberg, 1982) was computed for each tract as an indicator of whether any individual tract had an excessive effect on the regression equation. No tracts had an extreme influence on the overall model.

insert table 4 here

The impoverishment factor had the greatest effect on maltreatment rates. In other words, areas with the highest maltreatment rates were those with the intertwined conditions of poverty, unemployment, female-headed households, racial segregation, abandoned housing and population loss. These are the kinds of neighborhoods that have grown in number during the past two decades and have caused considerable debate about whether these areas are becoming home to a so-called underclass (Wilson, 1987; Ricketts and Sawhill, 1988).

The child care burden factor had a significant but somewhat weaker effect than impoverishment. Areas that had the combination of many children per adult, few elderly residents and a low proportion of adult males were at highest risk of child maltreatment. These are areas in which the number of adults available to supervise, care for and support children and to involve themselves in neighborhood social institutions may have been diminished. In Coleman's (1987) terminology, they may have lowered levels of social capital.

The instability factor's relatively weak effect was in the expected direction. Areas with greater movement had higher maltreatment rates. Moreover, there was a negative and statistically significant coefficient for the interaction between impoverishment and instability. The negative sign of the coefficient implies that the effect of instability falls as impoverishment rises. In other words, instability raises rates of child maltreatment more in areas that are less impoverished.

This interaction effect is plotted in Figure 2. Tracts are separated into quartiles based on their score on the impoverishment factor. Maltreatment rate is regressed on instability and the resulting slopes are plotted. It can be seen that maltreatment rises in response to instability in tracts that are low on impoverishment. In the tracts above the 75th percentile on the impoverishment factor, the slope actually becomes slightly negative. This finding, that instability has a greater effect in areas with less impoverishment, is consistent with research on crime in Baltimore by Taylor and Covington (1988). They found that movement produced the greatest increase in crime rates in areas whose economic status was on the rise. Crime rates in underclass areas were not responsive to instability in their study.

insert figure 2 here

An additional consideration in interpreting this result is whether the measures of movement as used in the census are tapping the same phenomenon in the most impoverished areas as they are elsewhere. Many of the census measures reflect whether a household has stayed in the same house or changed houses in a designated period. If the household just moved from down the street it is counted in the same way as one that has moved from a sizable distance. In the poorest neighborhoods, considerable movement may occur due to family economic crises or bureaucratic decisions. However, a considerable amount of the movement is within blocks of the original location (Weicher, 1990). Thus, some of the movement counted in the poorest areas may not have the same disruptive effects to social networks that are felt in more affluent communities. Such a measurement problem could account for the apparent reversal of the impact of instability in the most impoverished communities.

Finally, the geographic location of the tract relative to concentrated poverty areas also seems to affect maltreatment rates. Areas that are contiguous to other high poverty areas had higher maltreatment rates, independent of their values on the structural factors associated with community social organization. This is consistent with the concern about the negative impact of the growing concentration of poverty in many inner cities on the lives of the poor (Kasarda, 1993; Jargowsky and Bane, 1991; Wilson, 1987).

Analysis of Other Outcomes

Child maltreatment rates were found to be correlated with other signs of deviant behavior or family and child ill-health in a community. The zero order correlations between maltreatment rates and other outcomes were: .42 for drug trafficking, .63 for violent crime, .43 for juvenile delinquency, .48 for teen childbearing and .36 for low birth weights. A principal components analysis revealed that the first four measures form a single factor along with maltreatment while low birth weight loads on a separate factor. For the purposes of comparison, however, each of the outcomes is analyzed separately here.

The structural factors that were found to be related to child maltreatment were tested in models for these other outcomes. Table 5 presents the standardized regression coefficients.

insert table 5 here

The macrostructural factors related to community social organization displayed similar explanatory power with respect to violent crime, drug trafficking, juvenile delinquency and teen pregnancy. Although they were less powerful as predictors of low birth weight, this too was related to impoverishment and child care burden.

There were a few differences in the magnitude of effects for specific outcome variables. The child care burden factor has a significant effect in all equations. However, the relative magnitude of the effect of child care burden is lowest for violent crime rate and higher for teen pregnancy, drug arrests and juvenile delinquency. Areas with the highest child care burden may provide the least supervision and fewest organized activities for

teens who may then have greater likelihood of getting involved in delinquent or drug related activities.

The dimension of instability has no significant effect on drug trafficking, juvenile delinquency or low birth weight. Consistent with previous research, its coefficient is significant for violent crime rates (Sampson, 1985). Interaction effects between instability and impoverishment were significant only for violent crime. The direction of the interaction is the same as it was for maltreatment, with instability having a stronger effect on violent crime rates in less impoverished areas.

DISCUSSION

This analysis began with a set of indicators believed to represent structural aspects of community social organization. The principal components analysis revealed three dimensions: impoverishment, child care burden and instability. Family structure did not emerge as a separate dimension as was anticipated, largely because of the extremely strong relationship between an areas' poverty status and its proportion of female-headed families. While this is somewhat disappointing in that we would prefer to be able to separate these two effects, it reflects the reality of urban neighborhoods today. Poor women and children are clustered together in areas that are increasingly abandoned, disinvested and bereft of economic resources. Similarly, race is confounded with economic status and family structure due to extreme racial segregation.

The hypothesis, that variance in maltreatment rates across areas could be, in part, understood as a function of these structural factors was confirmed. It was also interesting to

note that low residential mobility, while having a preventive impact on maltreatment in more affluent areas, did little to offset the negative impact of extreme impoverishment. The possibility that movement has a unique meaning in the poorest neighborhoods needs to be investigated in order to draw conclusions about this finding.

The variables in the model explained a sizable portion of the variance that was quite similar to that reported by Garbarino and his colleagues in their studies in Chicago and Nebraska (Garbarino and Crouter, 1978; Garbarino and Kostelny, 1992). The findings are not unlike those reported in Baltimore as well (Zuravin, 1989). Similar findings, now in Cleveland, are further support for the claim that community context is an important component of child maltreatment.

Since the structural factors included here were explicitly tied to a theory of community social organization, it made sense to examine whether child maltreatment was related to other phenomena thought to result from community disorganization. We chose available measures such as violent crime, drug trafficking, juvenile delinquency, teen pregnancy and low birth weight births. Those indicators most closely associated with concepts of deviance, such as crime and delinquency, were best explained by the structural factors. Indicators often thought of as measures of family or child health, such as low birth weight were not as well explained by the statistical model.

Child maltreatment seems to be embedded within a similar set of forces in the community as produce other types of deviant behavior such as violent crime, drug trafficking, juvenile delinquency and teen pregnancy. The macrostructural factors that explain these phenomenon offer a less adequate explanation of indicators of mother and

child health such as low birth weight. The weak effect on health is somewhat surprising, since child maltreatment has often been viewed as a problem of inadequate parenting and lack of family resources falling within the purview of the health care system for recognition and treatment. The finding of this community level analysis suggests that child maltreatment may be as much a function of community level social organization and accompanying community resources, social control and solidarity.

Unfortunately, these factors linked to high rates of child maltreatment such as impoverishment, population instability and the geographic concentration of poverty and single mothers with young children are on the rise in many urban locations. This study confirms the negative consequences of these macrostructural trends for children using a model of community social organization.

Although the findings of this study are consistent with the inference that there are macrostructural effects of community social organization on child maltreatment, this cross-sectional study does not rule out the rival selection hypothesis: that maltreating families are drawn together in these types of neighborhoods but would have behaved similarly regardless of where they lived. This study also does not preclude hypotheses based on individual psychology such as Polansky and colleagues (1985) who contend that the personality disorders of neglectful mothers supersede the impact of neighborhood conditions. Indeed, community social organization has to be viewed as dynamic; it is affected by the traits of people who live in an area but, in turn, fosters or does not inhibit behaviors such as maltreatment or violent crime. Rising rates of these undesirable behaviors may further destroy community social organization, such as when mothers keep their

children indoors due to fear for their safety or elderly people move away due to crime and disruptive behavior of youth. Social institutions lose people who make them strong and social solidarity is undermined by the failure of mothers and children to interact with their neighbors.

This aggregate level analysis does not reveal the processes through which impoverishment, instability, extreme child care burden and concentration of poverty produce the high rates of maltreatment and other outcomes studied here. Future research is needed to explore the transactions among variables at multiple ecological levels (Cicchetti and Lynch, 1993). Nevertheless, theory, as well as our initial impressions from ethnographic research of residents in high-risk areas, suggest that the processes are complex. For example, residents of high maltreatment neighborhoods have reported a distrust among neighbors and observe that adults are more reluctant than in the past to intervene when they see children engaging in dangerous or unruly behavior. In turn, their fear of violence and the feeling that ones' neighbors are "undesirable" further limits their neighborhood interactions and many residents who can afford to move do leave, taking with them resources, skills and pro-social influences. As ever larger sections of the city become abandoned and impoverished, areas in the center become even more cut off from resources and opportunities. It is these processes that need to be better understood and restrained if the community is to become a vehicle for preventing child maltreatment.

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Table 1: Variable Definitions

Variable	Definition	Source
Indicators of Community Structure		
Poverty Rate	% poor persons, 1990	1990 Census, STF3
Unemployment Rate	% residents unemployed	1990 Census, STF3
Vacant Housing	% vacant housing units	1990 Census, STF1
Population Loss	% 1980-1990 population	1990 Census, STF1
Movement, 85-90	% who moved between 1985-1990	1990 Census, STF3
Tenure < 10 years	% households in current residence less than 10 years	1990 Census, STF3
Recent Movement, 89-90	% households that moved in one year	1990 Census, STF3
Family Headship	% households with children that are female-headed	1990 Census, STF1
Child/Adult Ratio	# of child(0-12)/# of adults(21+)	1990 Census, STF1
Male/Female Ratio	adult male(21-64)/adult female(21-64)	1990 Census, STF2
Elderly Population	% population that is over 65 years old	1990 Census, STF1
Percent Black	% residents classified as black	1990 Census, STF1
Contiguous to Concentrated Poverty	Contiguous to poor or non-poor tracts (0=borders no poor tracts, 1=borders one or more poor tracts)	1990 Census, STF3
Behavioral Outcomes		
Child Maltreatment Rate	maltreatment children/1000 children population (0-17 years old)	1991 Cuyahoga County Department of Human Services
Violent Crime	FBI index crimes against persons/1000 population	1990 Cleveland Police
Drug Trafficking	drug arrests/1000 population	1990 Cleveland Police
Juvenile Delinquency	juvenile filings/1000 teenagers (12-17)	1990 Cuyahoga County Juvenile Court
Teen Childbearing	births to teens (12-17)/1000 teen females (12-17)	1990 Birth Certificate Tape, Ohio Department of Health
Low Birth weight Births	low birth weight (≤2,500 gm) births/1000 live births	1990 Birth Certificate Tape, Ohio Department of Health

Table 2: Means and Standard Deviations for Variables in the Analysis

Variable	Mean	Standard Deviation
Poverty Rate	33.9	18.9
Unemployment Rate	17.5	11.0
Vacant Housing	12.5	8.3
Population Loss	13.0	11.1
Movement, 85-90	41.2	10.5
Tenure < 10 years	58.4	12.3
Recent Movement, 89-90	19.6	7.1
Male/Female Ratio	0.9	0.2
Family Headship	47.9	19.2
Child/Adult Ratio	0.4	0.2
Elderly Population	13.8	5.3
Contiguous to Poverty	0.6	0.5
Percent Black	48.0	44.2
Maltreatment Rate	36.3	20.7
Violent Crime	51.1	32.9
Drug Trafficking	14.2	18.2
Teen Child Bearing	71.8	36.2
Juvenile Delinquency	11.9	7.3
Low Birth Weight Births	124.1	65.7

n=177

Table 3: Rotated Factor Loadings, Final Communalities and Percent Variance Explained for Factor Model of Community Organization

Variable	Final Communal.	Factor 1 Impoverish -ment	Factor 2 Child Care Burden	Factor 3 Instability
Family Headship	.87	**.87**	.35	-.01
Poverty Rate	.90	**.85**	.27	.32
Unemployment Rate	.79	**.80**	.38	.05
Vacant Housing	.74	**.77**	.04	.37
Population Loss	.62	**.78**	-.12	-.03
Percent Black	.72	**.66**	.29	-.45
Elderly Population	.71	-.05	**-.82**	-.18
Child/Adult Ratio	.85	.40	**.83**	.06
Male/Female Ratio	.83	-.17	**-.73**	.51
Tenure < 10 years	.87	.17	.05	**.91**
Movement, 85-90	.79	.07	.00	**.88**
Recent Movement, 89-90	.70	.04	.05	**.83**

n=177

Percent Variance Explained: 78.2%

Table 4: Unstandardized and Standardized Regression Coefficients for Community Structural Factors, Contiguous to Concentrated Poverty, and Child Maltreatment Rate

Variable	Unstand. Coef.	Stand. Err. b	Stand. Coef.	t	p
Constant	33.12	1.97	-	16.84	.00
Impoverishment (Factor 1)	11.52	1.41	.56	8.15	.00
Child Care Burden (Factor 2)	4.21	1.16	.20	3.64	.00
Instability (Factor 3)	2.76	1.22	.13	2.26	.03
Factor 1 * Factor 3	-3.33	1.11	-.17	-2.99	.00
Contiguous to Poverty	5.81	2.90	.14	2.01	.05

n=177

R-square = .48 Adjusted R-square = .46 Standard Error = 15.16

Table 5: Standardized Regression Coefficient to Community Structural Factors on Drug Trafficking[1], Violent Crime[1], Juvenile Delinquency, Teen Childbearing and Low Birth Weight

Independent Variable	Dependent Variable				
	Drug Trafficking[1]	Violent Crime[1]	Juvenile Delinquency	Teen Child-bearing	Low Birth Weight
Constant	-	-	-	-	-
Impoverishment (Factor 1)	.66***	.73***	.49***	.41***	.46***
Child Care Burden (Factor 2)	.29***	.16***	.31***	.27***	.26***
Instability (Factor 3)	-.08	.30***	.00	.22**	-.08
Factor 1 * Factor 3	-.06	-.12**	.01	-.12	-.08
Contiguous to Poverty	.08	.09	.23***	.11	.01
R^2	.58	.72	.53	.37	.29

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .001$

n = 177

[1] The log was used as the dependent variable because of its skewed distribution.

Figure 1: Distribution of Maltreatment Rate

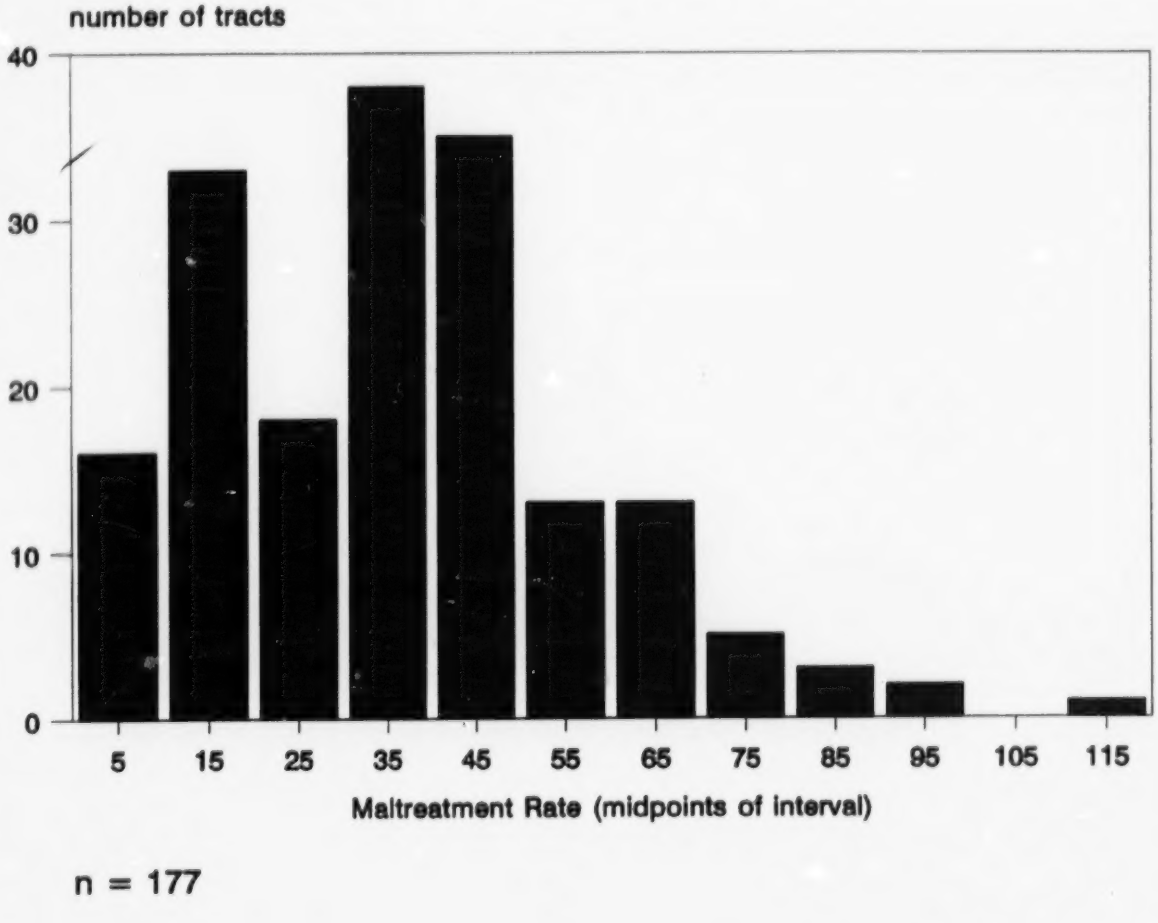

Figure 2: Slopes for Maltreatment on Instability by Quartile of Impoverishment